

Claims

1. A frictional pivot comprising:  
gravity-responsive directional means for indicating a datum direction  
5 of alignment with gravity;  
frictional pivoting means for allowing the gravity-responsive means  
coarsely to align with gravity;  
vibration means for vibrating one or more elements of the pivoting  
means; and  
10 portable power means for powering the vibration means.
2. A frictional pivot according to claim 1, wherein the length and  
frequency of occurrence of vibration produced by the vibrating means are  
controlled by manual switches or electronic timing circuitry.  
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3. A frictional pivot according to claims 1 or 2, wherein the gravity  
responsive directional means is a weighted pendulous arm orthogonally  
attached to a pivotable shaft.
- 20 4. A frictional pivot according to claims 1 or 2, wherein the gravity  
responsive directional means is an eccentrically weighted element  
orthogonally attached to a pivotable shaft
5. A frictional pivot according to claims 3 or 4, wherein the frictional  
25 pivoting means are two opposing plates of a flexible material which are held  
apart at a predetermined distance by being rigidly attached to a case, and  
conical ends of the shaft are located in conical depressions in the two  
opposing plates.
- 30 6. A frictional pivot according to any one of the preceding claims,  
wherein the vibration means is a low-voltage electric motor with an axially  
attached eccentric weight.

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7. A frictional pivot according to claim 5, wherein one or both of the two  
opposing plates are slugs of material with conical depressions and the slugs  
are axially movable relative to the pivotable shaft and held against the ends  
5 of the shaft by leaf or helical springs.

8. A laser referencing tool having a frictional pivot according to any one  
of claims 1 to 7.

10 9. A laser referencing tool according to claim 7 when dependent on  
claim 4, wherein the laser referencing tool is integrally formed with the  
gravity-responsive directional means.

15 10. A laser referencing tool according to claims 8 or 9, further comprising  
an eccentrically weighted cylindrical housing frictionally attached about a  
common axis to another cylindrical housing, the second housing containing  
laser projecting means.

20 11. A laser referencing tool according to claim 10, wherein a reference  
point indicating gravitational alignment is a mark on the circumference of the  
weighted housing, with other marks spaced at regular angular intervals on  
the circumference of the second housing indicating the angular  
displacement of the laser projecting means away from the gravitational  
vertical.

25 12. A laser referencing tool according to claims 10 or 11, wherein the  
vibrating means is within one or both of the cylindrical housings.